

ABSTRACT OF THE DISCLOSURE

Disclosed is a method for simultaneous generation of motion
5 paths depending on changes of internal and external sizes of an
object by a direction map for a 2-dimensional geometric figure,
the method including: a first step of respectively expressing
specific obstacle A and object B inputted through an input unit,
by direction maps; a second step of merging the direction maps
10 respectively expressing the obstacle and the object; a third step
of determining Minkowski operation after sizes of the obstacle
and the object are determined; a fourth step of performing a
necessary group unit based size control operation for a direction
map obtained by merging each of the direction maps of the
15 obstacle and the object in the second step; a fifth step of
performing collinear elimination for the result obtained in the
fourth step, performing a direction map inverse operation, and
performing a trimming operation to generate the motion path; and
a sixth step of calculating a c-space obstacle for obstacle and
20 object having different external and internal sizes.